

date of such certificate and which the City has covenanted to put into effect during the Applicable Bond Year, had such rate changes been effective on the first day of the Audit Period, and (iv) the amount required to be paid by a public body on an annual basis in connection with a contract with a duration at least equal to the term of the proposed additional Bonds, pursuant to which contract the City shall agree to furnish water or electric power, or to furnish services for the collection, treatment or disposal of sewage or agreed to furnish other services in connection with any other utility system for such public body, as if such contract had been in effect on the first day of the Audit Period. If any adjustments permitted by clauses (i), (ii) or (iv) of the preceding sentence shall be made, in determining the amount of the Adjusted Operation and Maintenance Expenses, such Authorized Officer shall take into account the estimated amount by which the Operation and Maintenance Expenses for the Audit Period would have increased had the Project to be financed with the proceeds of such additional Bonds been in operation from the beginning of the Audit Period, provided, however, it may take into account any adjustments necessary to reflect government ownership of any projects acquired from private owners. In projecting numbers of new customers for the purposes of clause (ii) of this paragraph, there shall be taken into account only dwellings, buildings or other structures in existence on the date of such projections.

(c) The amount of the Maximum Aggregate Debt Service for any Fiscal Year thereafter on account of all Bonds then Outstanding under the Resolution and the additional Bonds proposed to be issued thereunder.

(d) The amount, if any, required to be deposited from Revenues into the Debt Service Reserve Account pursuant to the Resolution or into any subaccount therein in the Applicable Bond Year pursuant to the terms of a supplemental ordinance or resolution.

(e) Based upon the foregoing, the Authorized Officer is of the opinion that the Adjusted Gross Revenues for the Audit Period, less one hundred percent (100%) of the Adjusted Operation and Maintenance Expenses for the Audit Period, shall equal or exceed the sum of one hundred percent (100%) of the amount to be deposited to the Reserve Fund as described in paragraph (d) above and one hundred twenty-five percent (125%) of the Maximum Aggregate Debt Service referred to in paragraph (c) above.

No Default. In addition, additional Bonds (except for Refunding Bonds) may be issued only if the City certifies that no Event of Default exists under the Resolution or that any such Event of Default will be cured through application of the proceeds of such Bonds.

Refunding Bonds. 1. One or more series of Refunding Bonds may be issued at any time to refund any Outstanding Bonds. Refunding Bonds shall be issued in a principal amount sufficient, together with other moneys available therefor, to accomplish such refunding and to make the deposits in the Funds and Accounts under the Resolution required by the provisions of the Supplemental Resolution authorizing such Bonds.

2. Refunding Bonds of each Series shall be authenticated and delivered by the Trustee only upon receipt by the Trustee (with copies of all documents to the Co-Trustee, if any), in addition to the documents required by the Resolution for the issuance of additional Bonds, except as otherwise provided below, of:

(a) Instructions to the Trustee, satisfactory to it, to give due notice of redemption, if applicable, of all the Bonds to be refunded on a redemption date or dates specified in such instructions;

(b) If the Bonds to be refunded are not by their terms subject to redemption or paid at maturity within the next succeeding 60 days, instructions to the Trustee, satisfactory to it, to give due notice of defeasance in the manner provided for in the Resolution or the Supplemental Resolution authorizing the Bonds of the Series being refunded; and

(c) Either (i) moneys (including moneys withdrawn and deposited pursuant to the Resolution) in an amount sufficient to effect payment at the applicable Redemption Price of the Bonds to be redeemed and at the principal amount of the Bonds to be paid at maturity together with accrued interest on such Bonds to the redemption date or maturity date, as applicable, which moneys shall be held by the Trustee or any one or more of the Paying Agents or Depositories in a separate account irrevocably held for and assigned to the respective Holders of the Bonds to be refunded, or (ii) Defeasance Securities in such principal amounts, of such maturities, bearing such interest, and otherwise having such terms and qualifications and any moneys, as shall be necessary to comply (x) with the provisions of the Resolution, which Defeasance Securities and moneys shall be held in trust and used only as provided in the Resolution or (y) the provisions relating to defeasance of the Bonds being refunded set forth in the Supplemental Resolution authorizing the Bonds of the Series being refunded, as applicable, which Defeasance Securities and moneys shall be held in trust and used only as provided in said provisions.

3. The proceeds, including accrued interest, of the Refunding Bonds of each Series shall be applied simultaneously with the delivery of such Bonds for the purposes of making deposits in such Funds and Accounts under the Resolution as shall be provided by the Supplemental Resolution authorizing such Series of Refunding Bonds and shall be applied to the refunding purposes thereof in the manner provided in said Supplemental Resolution.

4. The City may issue at any time and from time to time Refunding Bonds for the purpose of refunding any Series of Bonds, or any Bonds within a Series, or any maturity or portion of a maturity of Bonds within a Series, or for the purpose of refunding any Subordinate Indebtedness by complying with the requirements of the Resolution. In addition to, and notwithstanding the foregoing, the City may issue at any time and from time to time Refunding Bonds for the purpose of refunding any Series of Bonds, or any Bonds within a Series, or any portion of a maturity of Bonds within a Series or Sinking Fund Installment, without the necessity of complying with the requirements contained in the Resolution only with respect to debt service coverage requirements, provided that either (x) the Debt Service with respect to such Refunding Bonds in each Fiscal Year from and after the issuance thereof shall be equal to or less than the Debt Service in each such Fiscal Year with respect to the Bonds being refunded or (y) the Maximum Aggregate Debt Service of the Bonds is not increased as a result of such Refunding Bonds. In addition, at or prior to the issuance of such Refunding Bonds pursuant to the preceding sentence, there shall be filed with the Governing Body of the City, an opinion of Bond Counsel, given in reliance on factual and financial certificates, to the effect that upon the deposit of proceeds from the sale of such Refunding Bonds, together with such other legally available funds, in irrevocable escrow for the payment of the Bonds to be refunded, such Bonds shall not be deemed Outstanding for purposes of the Resolution.

Subordinated Indebtedness. The City may also issue Subordinated Indebtedness under the Resolution without compliance with any of the above conditions. References herein and in the Resolution to Bonds do not include such Subordinated Indebtedness.

### **Operation and Maintenance of the System**

The City shall at all times use its best efforts to operate or cause to be operated the System properly and in an efficient and economical manner, consistent with Prudent Utility Practice, and shall use its best efforts to maintain, preserve, reconstruct and keep the same or cause the same to be so maintained, preserved, reconstructed and kept, with the appurtenances and every part and parcel thereof, in good repair, working order and condition, and shall from time to time make, or use its best efforts to cause to be made, all necessary and proper repairs, replacements and renewals so that at all times the operation of the System may be properly and advantageously conducted.

### **Flow of Funds Under the Resolution**

1. On or before the last Business Day of each calendar month, the Revenues and Subsidy Payments actually received by the City and deposited into the Revenue Fund shall be applied, to the extent available, only in the following manner and in the following order of priority (such application to be made in such a manner so as to assure good funds in such Funds and Accounts on the last Business Day of such month):

(1) Each month the City shall pay from the Revenue Fund such sums as are necessary to meet Operation and Maintenance Expenses for such month;

(2) The City shall transfer from the Revenue Fund to the Rate Stabilization Fund the amount, if any, budgeted for deposit into such Fund for the then current month as set forth in the current Annual Budget or the amount otherwise determined by the City to be credited to such Fund for the month;

(3) The City shall next forward to the Trustee, for deposit in the Debt Service Fund (i) for credit to the Debt Service Account, (a) the amount, if any, required so that the balance in said Account shall equal the Accrued Aggregate Debt Service as of the last day of the then current month, (b) payments received by the City from a Qualified Hedging Contract Provider pursuant to a Parity Hedging Contract Obligation and (c) the amount, if any, required so the City can pay all obligations payable out of the Debt Service Account in the current month; provided that, for the purposes of computing the amount to be deposited in said Account, there shall be excluded from the balance in said Account the amount, if any, set aside in said Account from the proceeds of Bonds (including amounts, if any, transferred thereto from the Construction Fund) for the payment of interest on Bonds less that amount of such proceeds to be applied in accordance with the Resolution to the payment of interest accrued and unpaid and to accrue on Bonds to the last day of the then current calendar month; and (ii) for credit to each separate subaccount in the Debt Service Reserve Account, the amount, if any, required so that the balance in each such subaccount shall equal the Debt Service Reserve Requirement related thereto including any amount required to be credited to any separate subaccount in the Debt Service Reserve Account to satisfy any Reserve Deposits established for any Additionally Secured Series of Bonds as of the last day of the then current month (or, if the amount on deposit in the Revenue Fund shall not be sufficient to make the deposits required to be made pursuant to this clause (ii) with respect to all of the separate

subaccounts in the Debt Service Reserve Account, then such amount on deposit in the Revenue Fund shall be applied ratably, in proportion to the amount necessary for deposit into each such subaccount);

(4) The City shall next forward to the Trustee, for deposit from Revenues in the Subordinated Indebtedness Fund, the amount, if any, as shall be required to be deposited therein in the then current month to pay principal or sinking fund installments of and premiums, if any, and interest and other amounts due, on each issue of Subordinated Indebtedness coming due in such month, whether as a result of maturity or prior call for redemption, and to provide reserves therefor, as required by the Supplemental Resolution authorizing such issue of Subordinated Indebtedness; and

(5) The City shall next pay into the Utilities Plant Improvement Fund such amount as it shall deem appropriate provided that for each Fiscal Year deposits into such Fund shall be at least equal to one-half (1/2) of the Net Revenues, during the immediately preceding Fiscal Year, less the sum of (i) Aggregate Debt Service during the immediately preceding Fiscal Year and (ii) interest and principal paid during the immediately preceding Fiscal Year with respect to all Subordinated Indebtedness payable out of Revenues under the Resolution.

2. The balance of any moneys remaining in the Revenue Fund after the above required payments have been made may be used by the City for any lawful purpose; provided, however, that none of the remaining moneys shall be used for any purpose other than those hereinabove specified unless all current payments, including payments to the Utilities Plant Improvement Fund calculated on a pro-rata annual basis, and including all deficiencies in prior payments, if any, have been made in full and unless the City shall have complied in all material respects with all the covenants and provisions of the Resolution; and provided, further, that so long as there shall be held in the Debt Service Fund an amount sufficient to pay in full all Outstanding Bonds and Parity Hedging Contract Obligations in accordance with their terms (including the maximum amount of principal or applicable sinking fund Redemption Price and interest which could become payable thereon), no transfers shall be required to be made to the Debt Service Fund.

## THE 2019 BONDS

### General

The 2019 Bonds will be dated the date of delivery thereof, will bear interest from their date of delivery at the rates per annum set forth on the inside cover page of this Official Statement, payable on April 1 and October 1 of each year, commencing October 1, 2019, and will mature on October 1 in the years and in the principal amounts set forth on the inside cover page of this Official Statement. The 2019 Bonds will be issued in fully registered form in principal denominations of \$5,000 or any integral multiple thereof and, when issued, will be initially registered in the name of Cede & Co., as nominee for The Depository Trust Company, New York, New York ("DTC"). See "-- Book-Entry Only System" below.

### Book-Entry Only System

THE FOLLOWING INFORMATION CONCERNING THE DEPOSITORY TRUST COMPANY ("DTC") AND DTC'S BOOK-ENTRY ONLY SYSTEM HAS BEEN OBTAINED FROM SOURCES THAT THE CITY BELIEVES TO BE RELIABLE. THE CITY TAKES NO RESPONSIBILITY FOR THE ACCURACY THEREOF.

SO LONG AS CEDE & CO. IS THE REGISTERED OWNER OF THE 2019 BONDS, AS NOMINEE OF DTC, CERTAIN REFERENCES IN THIS OFFICIAL STATEMENT TO THE 2019 BONDHOLDERS OR REGISTERED OWNERS OF THE 2019 BONDS SHALL MEAN CEDE & CO. AND WILL NOT MEAN THE BENEFICIAL OWNERS OF THE 2019 BONDS. THE DESCRIPTION WHICH FOLLOWS OF THE PROCEDURES AND RECORD KEEPING WITH RESPECT TO BENEFICIAL OWNERSHIP INTERESTS IN THE 2019 BONDS, PAYMENT OF INTEREST AND PRINCIPAL ON THE 2019 BONDS TO DIRECT PARTICIPANTS (AS HEREINAFTER DEFINED) OR BENEFICIAL OWNERS OF THE 2019 BONDS, CONFIRMATION AND TRANSFER OF BENEFICIAL OWNERSHIP INTERESTS IN THE 2019 BONDS, AND OTHER RELATED TRANSACTIONS BY AND BETWEEN DTC, THE DIRECT PARTICIPANTS AND BENEFICIAL OWNERS OF THE 2019 BONDS IS BASED SOLELY ON INFORMATION FURNISHED BY DTC. ACCORDINGLY, THE CITY NEITHER MAKES NOR CAN MAKE ANY REPRESENTATIONS CONCERNING THESE MATTERS.

DTC will act as securities depository for the 2019 Bonds. The 2019 Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered 2019 Bond certificate will be issued for each maturity of each series of the 2019 Bonds in the aggregate principal amount thereof, and will be deposited with DTC.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments from over 100 countries that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). The Direct Participants and the Indirect Participants are collectively referred to herein as the "DTC Participants." DTC has an S&P Global Inc. ("S&P") rating of AA+. The DTC Rules applicable to its DTC Participants are on file with the Securities and Exchange Commission (the "SEC"). More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com).

Purchases of 2019 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2019 Bonds on DTC's records. The ownership interest of each actual purchaser of each 2019 Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 2019 Bonds

are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the 2019 Bonds, except in the event that use of the book-entry system for the 2019 Bonds is discontinued.

To facilitate subsequent transfers, all 2019 Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of the 2019 Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2019 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such 2019 Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of 2019 Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the 2019 Bonds, such as redemptions, tenders, defaults, and proposed amendments to the security documents. For example, Beneficial Owners of 2019 Bonds may wish to ascertain that the nominee holding the 2019 Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the Bond Registrar and request that copies of notices be provided directly to them.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the 2019 Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts 2019 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Payment of principal and interest on the 2019 Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the City, on the payment date in accordance with their respective holdings shown on DTC's records. Payments by DTC Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such DTC Participant and not of DTC or the City, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and redemption proceeds to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the City, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the 2019 Bonds at any time by giving reasonable notice to the City. Under such circumstances, in the event that a successor depository is not obtained, the 2019 Bonds are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, 2019 Bonds certificates will be printed and delivered to DTC.

## **Redemption Provisions**

Optional Redemption of 2019A Bonds. The 2019A Bonds maturing before October 1, 20\_\_ will not be subject to redemption prior to maturity. The 2019A Bonds maturing on and after October 1, 20\_\_ will be subject to redemption prior to maturity at the option of the City on and after October 1, 20\_\_ as a whole or in part at any time, at a Redemption Price of 100% of the principal amount thereof, plus accrued interest to the date of redemption.

### Mandatory Redemption.

Make-Whole Optional of Redemption 2019B Bonds. The 2019B Bonds of each maturity are subject to redemption at the option of the City in whole or in part pro-rata at any time at the Redemption Price that is the greater of (A) 100% of the principal amount of the 2019B Bonds to be redeemed and (B) the sum of the present value of the remaining scheduled payments of principal and interest to the maturity date of the 2019B Bonds to be redeemed, not including any portion of those payments of interest accrued unpaid as of the date on which the 2019B Bonds are to be redeemed, discounted to the date on which the 2019B Bonds are to be redeemed on a semi-annual basis, assuming a 360-day year consisting of twelve 30-day months, at the Treasury Rate (as defined below) plus \_\_\_\_\_ basis points, plus, in each case, accrued and unpaid interest on the 2019B Bonds to be redeemed to but not including the redemption date.

"Treasury Rate" means, as of any redemption date for a 2019B Bond, (i) the time-weighted interpolated average yield to maturity, assuming a 360-day year consisting of twelve 30-day months, for a term equal to the Make Whole Period of the yields of the two U.S. Treasury nominal securities at "constant maturity" (as compiled and published in the Federal Reserve Statistical Release H.15 (519) that is publicly available not less than two (2) Business Days nor more than [45] calendar days prior to the redemption date (excluding inflation indexed securities) (or, if such Statistical Release is no longer published, any publicly available source of similar market data reasonably selected by the Trustee most nearly equal to the period from the redemption date to the maturity date of such 2019B Bond)) maturing immediately preceding and succeeding the Make Whole Period or (ii) if the period from the redemption date to such maturity date is less than one year, the weekly average yield on actually traded U.S. Treasury Securities adjusted to a constant maturity of one year. The Treasury Rate will be determined by the Calculation Agent.

The redemption price of the 2019B Bonds to be redeemed pursuant to the make whole optional redemption provision described above will be determined by Calculation Agent or an independent accounting firm, investment banking firm or financial advisor retained by the City at the City's expense to calculate such redemption price. The Trustee and the City may conclusively rely on such determination of redemption price by such Calculation Agent or independent accounting firm, investment banking firm or financial advisor and will not be liable for such reliance.

"Calculation Agent" means an independent accounting firm, investment banking firm or financial advisor retained by the City and compensated by the City at the City's expense to determine the redemption price of the 2019B Bonds to be redeemed pursuant to the make whole optional redemption provisions above.

"Make Whole Period" means the period between the date of redemption of the 2019B Bonds to be redeemed pursuant to the make whole redemption provisions and the maturity date.

### **Notice of Redemption**

The Trustee shall give notice, in the name of the City, of the redemption of such 2019 Bonds, which notice shall specify the Series and maturities and interest rates within maturities, if any, of the 2019 Bonds to be redeemed, the redemption date and the place or places where amounts due upon such redemption will be payable and, if fewer than all of the 2019 Bonds of any like and maturity and interest rate within maturities are to be redeemed, the letters and numbers or other distinguishing marks of such 2019 Bonds so to be redeemed, and, in the case of 2019 Bonds to be redeemed in part only, such notice shall also specify the respective portions of the principal amount thereof to be redeemed and such notice may be conditioned upon the occurrence or non-occurrence of certain events. Such notice shall further state that on such date, unless such notice has been rescinded or has ceased to be in effect in accordance with the terms thereof, there shall become due and payable upon each 2019 Bond to be redeemed the Redemption Price thereof, or the Redemption Price of the specified portions of the principal thereof in the case of 2019 Bonds to be redeemed in part only, together with interest accrued to the redemption date, and that from and after such date interest thereon shall cease to accrue and be payable. Such notice shall be mailed by first class mail, postage prepaid, or electronically, not less than 20 nor more than 60 days before the redemption date, to the Registered Owners of any 2019 Bonds or portions of 2019 Bonds which are to be redeemed, at their last addresses, if any, appearing upon the registry books, and such notice may be given electronically. Failure to give notice by mail, or any defect in such notice, shall not affect the validity of the proceedings for the redemption of 2019 Bonds. Notwithstanding any other provision in the Resolution, notice of optional redemption may be conditioned upon the occurrence or non-occurrence of such event or events as shall be specified in such notice of optional redemption and may also be subject to rescission by the City if expressly set forth in such notice.

### **Purchase in Lieu of Redemption**

Notwithstanding any provision contained in the Resolution to the contrary, the City shall have the option to cause the 2019 Bonds to be purchased in lieu of redemption on the applicable redemption date at a price equal to the then applicable Redemption Price, plus accrued interest thereon to, but not including, the date of such purchase. Such option may be exercised by delivery to the Paying Agent (if the Trustee is not the Paying Agent for such 2019 Bonds) on or prior to the Business Day preceding the redemption date of a written notice of the City specifying that the 2019 Bonds shall not be redeemed, but instead shall be subject to purchase pursuant to this paragraph with the moneys provided or to be provided by or on behalf of the City. Upon delivery of such notice, the 2019 Bonds shall not be redeemed but shall instead be subject to mandatory tender at the redemption price on the date that would have been the redemption date.

### **Selection of 2019 Bonds to be Redeemed**

If fewer than all of a Series of 2019 Bonds subject to optional redemption are called for optional redemption, such Series of 2019 Bonds or Sinking Fund Installment to be redeemed shall be selected in such order of maturity and manner as the City, in its discretion, shall determine, and (a) if less than all of a Series of 2019 Bonds of a maturity or a Sinking Fund Installment shall be called for redemption, such Series of 2019 Bonds or Sinking Fund Installment to be redeemed shall be selected by lot within such maturity and (b) if less than all of the 2019B Bonds of a maturity or a Sinking Fund Installment shall be called for redemption such 2019B Bonds or Sinking Fund Installment to be redeemed shall be selected on a pro-rata pass-through distribution of principal basis in accordance with DTC Procedures, provided that,



so long as the 2019B Bonds are held in book-entry form, the selection for redemption of such 2019B Bonds shall be made in accordance with the operational arrangements with DTC then in effect.. In any event, the portion of 2019 Bonds to be redeemed in part shall be in principal amounts of \$5,000 or any integral multiple thereof.

### **Negotiability, Transfer and Registry**

The 2019 Bonds shall be transferable only upon the books of the City, which shall be kept for such purposes at the office of the Bond Registrar, by the Registered Owner thereof in person or by such owner's attorney duly authorized in writing, upon surrender thereof together with a written instrument of transfer satisfactory to the Bond Registrar duly executed by the Registered Owner or such owner's duly authorized attorney. Upon the transfer of any such 2019 Bond the City shall issue in the name of the transferee a new 2019A Bond or 2019B Bond of the same aggregate principal amount and Series, maturity and interest rate as the surrendered 2019 Bond.

The City and each Fiduciary may deem and treat the person in whose name any 2019 Bond shall be registered upon the books of the City as the absolute owner of such 2019 Bond, whether such 2019 Bond shall be overdue or not, for the purpose of receiving payment of, or on account of, the principal and Redemption Price, if any, of and interest on such 2019 Bond and for all other purposes, and all such payments so made to any such Registered Owner or upon such owner's order shall be valid and effectual to satisfy and discharge the liability upon such 2019 Bond to the extent of the sum or sums so paid, and neither the City nor any Fiduciary shall be affected by any notice to the contrary. The City agrees to indemnify and save the Trustee harmless from and against any and all loss, cost, charge, expense, judgment or liability incurred by it, acting in good faith and without negligence under the Resolution, in so treating such Registered Owner.

### **Payment of Interest on 2019 Bonds; Interest Rights Reserved**

Interest on any 2019 Bond which is payable, and is punctually paid or duly provided for, on any interest payment date shall be paid to the person in whose name that 2019 Bond is registered at the close of business on the date (hereinafter the "Regular Record Date") which, unless otherwise provided in the Supplemental Resolution authorizing such 2019 Bond, is the 15th day of the calendar month next preceding such interest payment date.

Any interest on any 2019 Bond which is payable, but is not punctually paid or duly provided for, on any interest payment date (hereinafter "Defaulted Interest") shall forthwith cease to be payable to the Registered Owner on the relevant Regular Record Date by virtue of having been such owner; and such Defaulted Interest shall be paid by the City to the persons in whose names the 2019 Bonds are registered at the close of business on a date (hereinafter the "Special Record Date") for the payment of such Defaulted Interest, which shall be fixed in the following manner. The City shall notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each 2019 Bond and the date of the proposed payment, and at the same time the City shall deposit with the Trustee an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the persons entitled to such Defaulted Interest as in provided in the Resolution. Thereupon the Trustee shall fix a Special Record Date for the payment of such Defaulted Interest which shall be not more than 15 nor less than 10 days prior to the date of the proposed payment and not less than 10 days after the receipt by the Trustee of the notice of the proposed payment. The Trustee

shall promptly notify the City of such Special Record Date and, in the name and at the expense of the City, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor to be mailed, first class postage prepaid, to each 2019 Bondholder at such 2019 Bondholder's address as it appears in the books of the City kept at the office of the Bond Registrar, not less than 10 days prior to such Special Record Date.

Subject to the foregoing provisions of the Resolution, each 2019 Bond delivered under the Resolution upon transfer of or in exchange for or in lieu of any other 2019 Bond shall carry the rights to interest accrued and unpaid, and to accrue, which were carried by such other 2019 Bond.

## **THE CITY**

### **General**

The City, home of the University of Florida, is located in North Central Florida midway between Florida's Gulf and the Atlantic coast. The City is approximately 125 miles north of Tampa, approximately 110 miles northwest of Orlando and approximately 75 miles southwest of Jacksonville. The Bureau of Economic and Business Research at the University of Florida estimated a 2018 population of 263,291 in the County with an estimated 131,217 persons resided within the City limits as of January 2019. The economic base of Gainesville consists primarily of light industrial, commercial, health care and educational activities. The University of Florida is the State's oldest university and, with approximately 56,000 students, is one of the largest universities in the nation.

For additional information with respect to the City and the County, see APPENDIX A attached hereto.

### **Government**

The City is governed by the City Commission, which currently consists of seven members. Four are elected from single member districts and three are elected Citywide. The Mayor is elected by the residents of the City.

The following are the current members of the City Commission:

	Term <u>Expires</u>
Mayor Lauren Poe, At Large .....	May 2019
Mayor-Commissioner Pro-Tem Adrian Hayes-Santos, District 4 .....	May 2019
Commissioner David Arreola, District 3 .....	May 2020
Commissioner Gail Johnson, At Large .....	May 2021
Commissioner Gigi Simmons, District 1 .....	May 2021
Commissioner Harvey Ward, District 2 .....	May 2020
Commissioner Helen K. Warren, At Large .....	May 2020

## THE SYSTEM

### General

Under its home rule powers and pursuant to the Charter, the City owns and operates the System, which provides the City and certain unincorporated areas of the County with electric, natural gas, water, wastewater, and telecommunications service (including certain utility services to the University of Florida). The System provides wholesale wastewater service to the City of Waldo. Natural gas service is also provided to retail customers within the corporate limits of the City of Alachua, Florida ("Alachua"), and the City of High Springs, Florida ("High Springs"). All facilities of the System are owned and operated by the City. The System is governed by the City Commission.

The electric system was established in 1912 to provide street lighting and electric service to the downtown area. Continuous expansion of the electric system and its generating capacity has resulted in the electric system serving an average of 98,172 customers (11,220 of which were commercial and industrial customers) in the fiscal year ended September 30, 2018, and having a maximum net summer generating capacity of 634 MW.

The water and wastewater systems were established in 1891 to provide water and wastewater service to the City. The water and wastewater systems served an average of 73,043 and 66,483 customers, respectively, in the fiscal year ended September 30, 2018. The water system has a nominal capacity of 54 million gallons per day ("Mgd") and the wastewater system has a treatment capacity of 22.4 Mgd annual average daily flow ("AADF").

The natural gas system was acquired from the Gainesville Gas Company in 1990 to provide gas distribution throughout the City. The gas system served an average of 35,389 customers in the fiscal year ended September 30, 2018.

The telecommunications system, GRUCom, was established in 1995 to provide communication services to the Gainesville area in a manner that would minimize duplication of facilities, maximize interconnectivity, simplify access, and promote the evolution of new technologies and business opportunities. GRUCom operates a state-of-the-art fiber optic network and current product lines include telecommunications transport services, Internet access services, communication tower antenna space leasing services, and public safety radio services. GRUCom served an average of 333 internet access customer connections and 129 dial-up customers in the fiscal year ended September 30, 2018.

### Utility Advisory Board

On November 19, 2015, the City Commission enacted Ordinance No. 140384 which created a new utility advisory board (the "Utility Advisory Board") to advise and make recommendations to the City Commission on all aspects of governance of the System's electric, gas, telecommunications, water and wastewater utilities. The Utility Advisory Board is comprised of seven members appointed by the City Commission, all of whom reside within the System's service area and receive utility service from GRU. The Utility Advisory Board serves as an advisor to the City Commission on all policy and governance decisions to be made by the City Commission regarding utility services; serves as a channel of communications between the City Commission, utility staff and the utility customers; and considers and makes recommendations regarding proposed changes in fees, rates, or charges for utility services. The Utility Advisory Board has no rate setting authority. However, since July 18, 2017, the City Commission and Utility Advisory Board have been holding joint meetings to study and evaluate whether to vest the Board with some level of final decision-making authority. Any such changes in decision-making authority with respect to utility matters would require revisions to the City Code of Ordinances and may, depending on the extent of the changes, require revisions to the City Charter.

### Legislative Matters Affecting the City

The City and the System may, from time to time in the future, be subject to changes in laws or regulations, many of which are beyond the control of the City, and which could have an effect on the existence, governance, revenues, management, operations and finances of the City and the System.

### Management of the System

The daily operations of the System are managed by the General Manager for Utilities. In addition to the General Manager for Utilities, key members of the System's leadership team include five operational managers, a Chief Operating Officer, the Chief Financial Officer and the City Attorney. The operational managers consist of an Energy Delivery Officer, Water/Wastewater Officer, Chief Customer Officer, Energy Supply Officer and a Chief Business Services Officer.

*Mr. Edward J. Bielarski, Jr., General Manager for Utilities*, joined the System as a Charter Officer and General Manager in June of 2015. Mr. Bielarski has over 20 years of experience in the utility industry, having worked with Constellation Energy Group (Maryland) as a Project General Manager and a Project Chief Financial Officer, and Lehigh County Authority (Pennsylvania) as a Chief Operating Officer and Chief Financial Officer. As a Charter Officer, he reports directly to the seven-member City Commission and to the Utilities Advisory Board. Mr. Bielarski currently serves on the Board of Directors for The Energy Authority, Inc. ("TEA") and the Florida Reliability Coordinating Council (the "FRCC"). In his role as General Manager, Mr. Bielarski oversees all operations of the combined electric, natural gas, water, wastewater and telecommunications utilities. Principal responsibilities include management for all planning, administration, customer service, engineering, organizational development, construction and operations for all utility responsibility areas in accordance with City policies. Additionally, he oversees the preparation and administration of the annual budget and is responsible for policy development and the implementation of policies adopted by the City Commission.

*Ms. Claudia Rasnick, Interim Chief Financial Officer*, joined the System in January 2014 and was appointed to this role in December 2017. Ms. Rasnick has worked in an executive capacity in private industry for ten years, in public accounting for publicly traded, not for profit and governmental clients

seven years, and in municipal utilities for four years. She previously held the role of Accounting and Finance Director. She holds a Master of Business Administration and is a licensed Certified Public Accountant in the State of Florida. Ms. Rasnick oversees the operations of the Budget, Finance, and Accounting divisions.

*Mr. Thomas R. Brown, P.E., Chief Operating Officer*, joined the System in September of 2015 and was appointed to this role in July 2016. Mr. Brown has worked as an energy industry executive for 38 years, including most recently as the Vice President/Commercial Manager of Leidos-Plainfield Renewable Energy in Plainfield, Connecticut. He also served in executive management positions with Cogentrix, El Paso Merchant Energy and Ridgewood Power Corporation. Mr. Brown holds a Master of Business Administration degree from Indiana University of Pennsylvania and a Bachelor of Science degree in Mechanical Engineering from Pennsylvania State University, and is a registered Professional Engineer. In his current role, Mr. Brown oversees and manages the System's Energy Supply, Energy Delivery, and Water/Wastewater business operations.

*Mr. Dino De Leo, Energy Supply Officer*, joined the System in September 2006 and formerly served as Production Assurance Support Director. Mr. De Leo was appointed interim Energy Supply Officer in February 2016 and was made permanent in January 2017. Mr. De Leo has worked as an executive in the energy industry for over 36 years and, prior to joining GRU, served in various leadership roles in the US Navy Submarine force where he retired after 26 years of service in 2006. He holds a Bachelor of Science in Nuclear Engineering from the University of Florida, a Bachelor of Science in Business Administration degree from Columbia College and a Master of Business Administration from Brenau University. Mr. De Leo is responsible for planning, directing, coordinating and administering all activities and personnel for the System's Energy Supply Department including the System's power generation functions, a power engineering group, and a fuels management group, and oversees the design, construction, operation, and maintenance of related systems, projects, and contracts. He also assists with risk management oversight on an executive team and acts as the System's Energy Supply Department's liaison with local, state, and federal agencies.

*Mr. Anthony Cunningham, P.E., Water/Wastewater Officer*, has been with the System for over 15 years, was appointed to his position in 2016 and previously served as Water/Wastewater Engineering Director. Mr. Cunningham's entire 22 year professional career has been in the water and wastewater industry including 7 years as a consulting civil engineer at Causseux & Ellington, Inc. He has held various positions through his years at the System including; Strategic Planning Engineer, Senior Environmental Engineer, Acting Water Distribution and Wastewater Collection Director, and Engineering Director. He holds a Bachelor of Science degree in Engineering from the University of Florida and is a registered Professional Engineer in the State of Florida. Mr. Cunningham is responsible for planning, directing, coordinating and administering all activities and personnel of the Water and Wastewater Department. He directs the design, construction, operation and maintenance of all the water and wastewater systems to deliver safe, reliable, and competitively priced services.

*Mr. Gary L. Baysinger, Energy Delivery Officer*, joined the System in 2006. He was appointed interim Energy Delivery Officer in January 2016 and was made permanent in January 2017. Mr. Baysinger previously served as Work & Resource Management Manager and holds a Bachelor of Science in Industrial Engineering from Kent State University. Mr. Baysinger currently serves as Vice-Chair of the Florida Society of Maintenance and Reliability Professionals and maintains CMRP and CMM credentials. As the Energy Delivery Officer, Mr. Baysinger oversees the construction, operation and maintenance of the System's electric transmission and distribution facilities and the natural gas transmission and distribution facilities,

and is also responsible for operations engineering, system control, substations and relay/control, city gate stations, electric and gas metering, and field services.

*Mr. J. Lewis Walton, Chief Business Services Officer*, joined the System in March 2008, and has more than 20 years of experience developing, implementing, marketing and managing customer-driven products and services in both competitive markets and the utility industry. Before his appointment to Chief Business Services Officer in September 2015, Mr. Walton served progressively as Marketing & Communications Manager, Director of Marketing and Business Solutions, and most recently as Chief of Staff for GRU's combined utility systems. Mr. Walton holds a Communications Degree from Auburn University and previous to his arrival at GRU, progressed through various operations, sales, marketing, and management positions at both Roadway Package Systems, which is now FedEx Ground, and at Lee County Electric Cooperative in Southwest Florida. Mr. Walton oversees the planning, operations and administration of GRUCom, the System's competitive fiber optic telecommunications unit, as well as the natural gas marketing program, economic development and development of ancillary products and services for the combined System.

*Mr. William J. Shepherd, Chief Customer Officer*, has been with the System for over 23 years, was appointed to his position in September 2015 and previously served as the Director of Customer Operations. The majority of Mr. Shepherd's career has been in Energy and Business services where he has played a critical part in the design and development of the System's nationally recognized energy efficiency programs. Mr. Shepherd holds a Masters of Business Administration from the University of Florida and a Bachelor of Science in Aeronautical Science from Embry Riddle Aeronautical University, and is a Certified Energy Manager ("CEM"). Mr. Shepherd is responsible for customer service, billing, collections, mail services, quality control, facilities, purchasing, cashiers, energy and business services, and new services.

*Cheryl McBride, Chief People Officer*, is GRU's chief liaison with the City, and the primary contact for GRU's personnel matters. Prior to joining GRU, Ms. McBride worked in the City's Human Resources Department for 10 years, serving as the H. R. Director for the past three years. Ms. McBride has also worked in human resources at Walt Disney World, Sprint, and Harris Corporation; however, her first job out of high school was with GRU. She later went on to earn her degree in business administration from the University of Florida.

*Walter Banks, Chief Information Officer*, has been planning, implementing and leading information technology solutions for public organizations for nearly 20 years. He most recently served as Director of Information Technologies for Frederick County, Virginia, following more than a decade managing the IT needs of school districts in central New Jersey and eastern Pennsylvania.

*Nicolle M. Shalley, Esq., City Attorney*, has been with the City Attorney's Office since 2006 and has been the City Attorney since October 2012.

*Lisa C. Bennett, Esq., Senior Assistant City Attorney*, has been with the City since 2013. She works under the direction and supervision of the City Attorney.

### Labor Relations

The System presently employs approximately 850 persons. All personnel are City employees and are solely under the management of the City. Florida law prohibits public employees from striking.

The City has historically maintained good labor relations with respect to the System. Approximately 560 of the System's employees are represented by Local No. 3170 of the Communications Workers of America (the "CWA"). The current agreements with the CWA (Non-Supervisory and Supervisory), expire on December 31, 2018. Negotiations on three year successor agreements began in April 2018, and the CWA was ratified by the Union on January 22, 2019. The agreements will move to a ratification vote by the City Commission on February 7, 2019.

### Permits, Licenses and Approvals

Management believes that all principal permits, licenses and approvals required to construct and operate the System's facilities have been acquired. Management further believes that the System is operating in compliance in all material respects with all such permits, licenses and approvals and with all applicable federal, state and local regulations, codes, standards and laws.

## **The Electric System**

### Service Area

The System provides retail electric service to customers in the Gainesville urban area, which includes the City and a portion of the surrounding unincorporated area. Wholesale electric services are currently provided to Alachua and the City of Winter Park, Florida ("Winter Park"). See "*Energy Sales – Retail and Wholesale Energy Sales*" below. The electric facilities of the System currently serve approximately 124.5 square miles of the County, and approximately 76% of the population of the County, including the entire City, with the exception of the University of Florida campus, which is served principally by Duke Energy Florida ("Duke"). Electric service is also provided in the unincorporated areas of the County by Duke, Clay Electric Cooperative ("Clay"), Florida Power & Light Company ("FPL"), and Central Florida Electric Cooperative, Inc. The System has a territorial agreement with Clay which establishes a service boundary between the two utilities in the unincorporated areas of the County in order to clearly delineate, for existing and future service, those areas to be served by the System and those areas to be served by Clay.

### Customers

The System has experienced modest growth in customers averaging 1.17% per year since 2014. The following tabulation shows the average number of electric customers for the fiscal years ended September 30, 2014, through and including September 30, 2018.

	Fiscal Years ended September 30,				
	2014	2015	2016	2017	2018
Retail Customers (Average):					
Residential	83,117	83,796	84,069	85,229	86,952
Commercial and Industrial	10,602	10,677	10,726	11,043	11,220
Total	93,719	94,473	94,795	96,272	98,172

Of the 98,172 customers in the fiscal year ended September 30, 2018, 11,220 commercial and industrial customers provided approximately 56% of revenues from retail energy sales.

Below are the top ten electric customers of the System are outlined in the table below.

<u>Rank</u>	<u>Customer</u>	<u>% of Electric Revenue</u>
1	GRU	2.9%
2	Alachua County Public Schools	2.2
3	UF Health/Shands Teaching Hospital and Clinics	2.0
4	North Florida Regional Medical Center	1.7
5	Publix Super Markets Inc.	1.7
6	VA Medical Center	1.7
7	University of Florida	1.5
8	Alachua County Board of Commissioners	0.9
9	Santa Fe College	0.7
10	City of Gainesville	0.7
	<b>Top 10 Electric Customers</b>	<b>16.1%</b>
	<b>Fiscal Year 2018 Electric Revenue* (000)</b>	<b>\$285,720</b>

\*Management prepared breakout of each business unit revenues (unaudited).

### Energy Sales

#### The Energy Authority

TEA is a Georgia nonprofit corporation founded by publicly-owned utilities in 1997 to maximize the value of their generation and energy resources in a competitive wholesale market. The System became an equity member of TEA on May 1, 2000. Other equity members include City Utilities of Springfield, Missouri, Cowlitz County Public Utility District, JEA (Jacksonville), the Municipal Electric Authority of Georgia ("MEAG Power"), Nebraska Public Power District, South Carolina Public Service Authority, and American Municipal Power. TEA has offices in Jacksonville, Florida and Seattle, Washington and provides power marketing, trading, and risk management services throughout most of the United States.

TEA currently works with over 50 public power clients that represent 24,000 MW of peak demand and 30,000 MW of installed generation capacity across the U.S. TEA manages a diverse generation portfolio that has proven advantageous in terms of market presence. Operations include the purchase and sale of power, transmission capacity acquisition and scheduling, natural gas and oil purchase and transportation, and financial trading and hedging under strictly observed risk policies.



Other than for retail load and applicable pre-existing bi-lateral long-term wholesale power agreements, TEA markets the System's generating resources in real-time, day-ahead, and longer-term power markets up to twelve months ahead. TEA also purchases all of the System's natural gas and optimizes the System's gas transportation entitlements. TEA's ability to execute energy transactions on behalf of the System includes arranging for any transmission services required to accommodate such transactions. Each transaction is accomplished through the execution of a letter of commitment between the System and TEA for a specific capacity amount and duration, and with negotiated terms and prices. Examples of these power sales include short-term, emergency and economy sales, ranging from a period of months to a single hour. TEA also executes and manages financial hedges for its members, primarily in the form of NYMEX natural gas futures and options. TEA constantly monitors the credit of counterparties and manages credit security requirements on behalf of the System as well as other TEA members.

TEA settles the transactions it makes for its members under terms set forth in settlement procedures adopted by its Board of Directors. The excess (or deficiency) of TEA's revenues over (or under) its costs are also allocated among its members pursuant to such procedures.

The System provides guarantees to TEA and to TEA's banks to secure letters of credit issued by the banks to cover purchase and sale contracts for electric energy, natural gas and related transmission. In accordance with the membership agreement between the System and its joint venture members and with the executed guaranties delivered to TEA and to TEA's banks, the System's aggregate obligation for electric energy marketing transactions entered into by TEA on behalf of its members was \$9.6 million as of each of September 30, 2018 and September 30, 2017. The System's aggregate obligation for TEA's natural gas marketing transactions, under similar agreements and executed guaranties as of September 30, 2018 and 2017, was \$12.1 million and \$9.9 million, respectively.

For a discussion of the System's investment in TEA and its commitments to TEA as of September 30, 2017 and 2016, see Note 3 to the audited financial statements of the System "Investment in The Energy Authority" referenced in APPENDIX B attached hereto. See also "-- Energy Supply System – Fuel Supply – Natural Gas" below for additional discussion of TEA's role in supplying natural gas for the System.

With support from TEA, GRU explored the benefits and consequences of combining GRU's generation with that of another entity and economically dispatching the combined fleet through coordinated dispatch. The coordinated dispatch model allows JEA (also part owner of TEA) and GRU to dispatch their generation fleets as if they were one. The most economical units can supply power to meet the combined demand.

The coordinated dispatch model creates another option to provide power at a lower price point, but is not an obligation. GRU and JEA would dispatch their two systems as one and establish day-ahead (and in the potential future, week-ahead and month-ahead transactions) schedules for power flows between the entities. The pricing of the power flowing during each hour is determined by the avoided cost of the entity selling the power plus a margin. The margin is determined by the savings between dispatching the systems separately versus together.

The analysis of the benefits showed the ability to reduce JEA's production cost by running their fleet at a point of better thermal efficiency when serving part of the GRU demand. GRU's savings were the result of serving load with lower-cost power generated by JEA, rather than from its own fleet. The

agreement was signed in March 2016 and coordinated dispatch began in May 2016. As of February 2018, GRU has realized approximately \$2.3 million in savings as a result of the agreement.

Retail and Wholesale Energy Sales

In the fiscal year ended September 30, 2018, the System sold 2,032,343 megawatt hours ("MWh") of electric energy to its retail and firm wholesale customers (excluding interchange and economy sales). The System currently has a firm "all requirements" wholesale sales contract with Alachua. This contract, which originated in 1988, was renewed April 1, 2016 for a term of seven years. "All requirements" services include control area voltage and frequency regulation and all other ancillary services. The following table shows the System's sales in MWh and average use of electricity, in kilowatt hours ("kWh") by customer class, for the fiscal years ended September 30, 2014 through and including September 30, 2018. Year-to-year variability is due primarily to the effects of weather on heating and cooling loads. For the fiscal year ended September 30, 2018, there was a 3.13% increase in residential MWh sales from the prior year.

The contract with Alachua includes management of Alachua's 0.019% share of the St. Lucie Unit project, as well as, compliance responsibilities of the North American Electric Reliability Corporation, Inc. ("NERC"). During the fiscal year ended September 30, 2018, the System sold 133,709 MWh to Alachua and received \$7,789,361 in revenue from those sales, which represented approximately 6.6% of total energy sales (excluding interchange sales) and 3.0% of total sales revenues.

**Retail and Wholesale Energy Sales**

	Fiscal Years ended September 30,				
	2014	2015	2016	2017	2018
Energy Sales–MWh:					
Residential	771,884	792,704	819,431	796,851	821,821
General Service, Large Power and Other	941,578	951,412	977,797	963,123	989,213
Firm Wholesale <sup>(1)</sup>	119,447	190,103	220,890	218,732	221,309
Total	<u>1,832,909</u>	<u>1,934,219</u>	<u>2,018,118</u>	<u>1,978,706</u>	<u>2,032,343</u>
Average Annual Use per Customer–kWh:					
Residential	9,287	9,460	9,747	9,350	9,451
General Service, Large Power and Other	88,811	89,109	91,161	87,216	88,163

<sup>(1)</sup> Sales to the City of Winter Park began January 2015.

Pursuant to Florida's Interlocal Cooperation Act of 1969, Chapter 163, Florida Statutes, the System entered into an Interlocal Agreement with Winter Park on February 24, 2014, effective January 1, 2015 and expiring on December 31, 2018. Pursuant to this Agreement, the System has agreed to sell 10 MW of capacity and the associated energy on a 7 day/24 hours a day "must-take" basis, except that Winter Park may designate up to 500 hours per year during which the "must-take" quantity may be 5 MW.

Interchange and Economy Wholesale Sales

The System has participated in short-term power sales to other utilities through TEA when market opportunities exist. Due to new natural gas-fired generation in the market, and low and stable natural gas prices, these opportunities are limited. In recent years, net revenues from interchange sales as reflected in the following table have been modest.

**Net Revenues from Interchange and Economy Wholesale Sales<sup>(1)</sup>**  
**(Fiscal Years ended September 30)**  
**(dollars in thousands)**

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
Net Revenues (Loss)	\$123	\$673	\$369	\$126	\$3,064
Percent of Total Electric System Net Revenues	0.1%	0.9 %	0.5%	0.2%	3.73%

<sup>(1)</sup> Variable in nature due to regional capacity availability, weather effects on demand and fuel price volatility.

Interchange and Economy Wholesale Purchases

Interchange and economy wholesale purchases made when power is available from the market at prices below the System's production costs are among the factors that allow the System to assure competitive power costs for retail and firm wholesale customers. Purchases for a duration of less than 24 months are made through TEA. Longer-term contracts are negotiated by the System's staff. The benefits of the System's purchases are passed on to retail and firm wholesale customers by affecting the fuel and purchased power adjustment portion of their rates (see "- Rates – Electric System" below). In the fiscal year ended September 30, 2018, 8% of energy required to serve retail and wholesale customers was obtained through non-firm off-system purchases.

Renewable Energy

On November 8, 2017, the City purchased a biomass plant, formerly known as Gainesville Renewable Energy Center. Upon acquisition of the facility, the plant was renamed the DHR Biomass Plant.

**DHR Biomass Plant**

General

The DHR Biomass Plant is an approximately 102.5 MW net (116 MW gross) wood biomass-fired facility. The DHR Biomass Plant is located on a 131-acre site approximately 10 miles northwest of the City within Alachua County, adjacent to GRU's current Deerhaven electric generation facilities. Prior to the

acquisition of the DHR Biomass Plant, all of the output of the DHR Biomass Plant was sold to GRU pursuant to a long-term power purchase agreement described below and referred to herein as the "PPA". The DHR Biomass Plant uses advanced combustion technology in which biomass materials are burned in a fluidized bed boiler under controlled, low emissions conditions to generate steam, which in turn drives a turbine/generator that converts the power into electricity.

The reasons for the acquisition were as follows:

#### Strategic Advantages

The acquisition of the DHR Biomass Plant offered several strategic advantages that were in the best financial interests of GRU and its ratepayers:

1. Termination of the PPA, which was set to expire in 2043 (see "—Operating Flexibility" below for a description of resulting operational flexibility);
2. An immediate reduction of operating costs and an immediate one-time reduction of electric rates of approximately 8% addressing the City's policy for rate competitiveness (GRU anticipates subsequent annual 2-3% rate increases over the next five years);
3. The realization of future annual cash flow savings from the elimination of the minimum annual fixed payments under the PPA, compared to the annual debt service on the Utilities System Revenue Bonds, 2017 Series A, Variable Rate Utilities System Revenue Bonds, 2017 Series B and Variable Rate Utilities System Revenue Bonds, 2017 Series C;
4. The flexibility to operate the DHR Biomass Plant as a strategic reliability hedge, based on the market cost of power, cost of fuel, and operating and maintenance requirements of the DHR Biomass Plant;
5. A reduction of long-term contractual capitalized obligations on GRU's balance sheet of approximately \$1 billion in exchange for adding \$680,920,000 of long-term debt; and
6. The final resolution of all on-going arbitration between the City and Gainesville Renewable Energy Center, LLC ("GREC LLC").

#### Operational Flexibility

Termination of the PPA in connection with the acquisition of the DHR Biomass Plant offered operational flexibility that was in the best financial interests of GRU and its ratepayers, including:

1. GRU no longer has to coordinate for the planned dispatch of the DHR Biomass Plant as was mandated by the PPA. Rather, GRU can optimize the mix of generating resources and market purchases to meet the necessary demand in the most cost-effective manner.
2. Prior to the termination of the PPA, GRU was required to dispatch the plant at 70 MWs, which is a large percentage of GRU's overall load and has proven difficult to manage across the generation fleet. The larger block size of 70 MWs prevented the use of other GRU generating resources or market purchases that could provide energy at a savings compared to the energy from the DHR Biomass Plant. A smaller blocksize, such as 35 MWs or lower, allows GRU to better optimize its fleet to more economically meet the requisite demand with multiple generation resources fueled by less expensive coal, natural gas, biomass and market purchases.
3. Prior to the termination of the PPA, GRU could not schedule any shutdowns during the summer period. As a result, if the DHR Biomass Plant started the summer season, it had

to remain "On" for the duration of the summer season. Terminating the PPA eliminated this operational inflexibility and financial burden. Additionally, GRU had the ability to manage the DHR Biomass Plant such that for certain periods of the year, if the DHR Biomass Plant was not expected to be operational, staffing levels can be significantly reduced for a period of time. The PPA required a full workforce compliment whether the DHR Biomass Plant was operating or in stand-by mode.

4. The DHR Biomass Plant is adjacent to GRU's current Deerhaven facilities. The operation and maintenance staffing of this facility is through a 3<sup>rd</sup> party contractor of North American Energy Services ("NAES"). Since GRU has owned the facility the facility staffing has been optimized to take advantage of some of the synergistic services we provide to our other three generating plant sites. Additionally; GRU is currently evaluating options to convert the operation and maintenance of DHR Biomass Plant from NAES to GRU employees.
5. Prior to the termination of the PPA, GREC LLC managed the fuel procurement process with its staff. GRU believed those contracts can be better managed with staff of GRU while eliminating the "margin" that GREC LLC applied to fuel procurement. Additionally, the PPA required a minimum fuel inventory of 15 days. GRU can manage the fuel inventory more opportunistically.
6. The PPA treated the property taxes on the DHR Biomass Plant as a reimbursable expense. Termination of the PPA and GRU's ownership eliminated the direct payment of property taxes.
7. GRU control of the DHR Biomass Plant's dispatch and the reduction in the 70 MW block size enables GRU to make more cost-effective market purchases of energy when market prices are below GRU's cost of delivering energy.

With the reductions in the cost of natural gas, a slower growth in load than forecasted, an evolving legislative and regulatory environment, and energy efficiency increases, among other factors, the need for energy from the DHR Biomass Plant had become less economical. Upon acquisition of the DHR Biomass Plant, the restrictions imposed by the PPA were no longer applicable. As such, GRU is able to operate the plant with greater flexibility, and with more economical biomass fuel than under the PPA. These two factors as well as unit tuning and optimization have made the DHR Biomass Plant more economical. GRU continues to consider the DHR Biomass Plant to be a useful long-term strategic energy resource, and expects it will continue to play an integral part in its long-term strategy to hedge against any potential future carbon tax and trade programs.

For information on the effect of the acquisition of the DHR Biomass Plant on historical debt service coverage levels, see "-- Summary of Combined Net Revenues" below. Based on historical information, GRU expects an improvement to the fixed charge coverage ratio and a reduction in the debt service coverage metric in the future.

For more information, see "-- Energy Supply System – Generating Facilities – DHR Biomass Plant" below.

#### Other Renewable Energy and Carbon Management Strategies

Since 2006, renewable energy and carbon management strategies became a major component of the System's long-term power supply acquisition program. These renewable resources include the purchase of energy generated by landfill gas emissions, biomass and solar. The System instituted the nation's first European-style solar feed-in-tariff ("FIT") (discussed below) to be offered by a utility. The

System's renewable energy portfolio is part of a long-term strategy to hedge against potential future carbon tax and trade programs. See "-- Future Power Supply" below for more information on the System's renewable energy resources. See also "-- Factors Affecting the Utility Industry - Air Emissions - *The Clean Air Act*" below concerning the cap and trade program under which utilities have several options for complying with the emissions cap, including installation of emission controls, purchasing allowances or switching fuels.

### Energy Supply System

#### Generating Facilities

The DHR Biomass Plant is an approximately 102.5 MW net (116 MW gross) wood biomass-fired facility. The DHR Biomass Plant is located on a 131-acre site approximately 10 miles northwest of the City within Alachua County, adjacent to GRU's current Deerhaven electric generation facilities. The DHR Biomass Plant uses advanced combustion technology in which biomass materials are burned in a fluidized bed boiler under controlled, low emissions conditions to generate steam, which in turn drives a turbine/generator that converts the power into electricity. The DHR Biomass Plant is more particularly described below in "THE SYSTEM – The Electric System – Energy Supply System –Generating Facilities – DHR Biomass Plant."

The System owns generating facilities having a net summer continuous capability of 634 MW of net dispatchable summer continuous capacity. The System also is entitled to the capacity and non-dispatchable energy from a landfill gas to energy plant of approximately 3.7 MW. These facilities are connected to the Florida Grid and to the System's service territory over 138 kilovolt ("kV") and 230 kV transmission facilities that include three interconnections with Duke and one interconnection with FPL.

See also "-- Energy Sales – *Interchange and Economy Wholesale Purchases*" above for a discussion of certain power purchases employed to allow the System to assure competitive power costs.

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The Generating Facilities are set forth in the following table and described herein.

Existing Generating Facilities		Fuels		Net Summer Capability (MW)
Plant Name	Unit No.	Primary	Alternative	
<u>JRK Station</u>				
	Steam Unit 8	Waste Heat	—	36
	Combustion Turbine 4	Natural Gas	Distillate Fuel Oil	72
				<u>108</u>
<u>Deerhaven Generating Station</u>				
	Steam Unit 2	Bituminous Coal	—	228
	Steam Unit 1	Natural Gas	Residual Fuel Oil Distillate Fuel	75
	Combustion Turbine 3	Natural Gas	Oil	71
	Combustion Turbine 2	Natural Gas	Distillate Fuel Oil	17.5
	Combustion Turbine 1	Natural Gas	Distillate Fuel Oil	17.5
				<u>409</u>
<u>South Energy Center</u>				
	SEC-1	Natural Gas	—	3.5
	SEC-2	Natural Gas	—	7.4
				<u>10.9</u>
<u>DHR Biomass Plant</u>		Biomass	—	<u>102.5</u>
<u>Total Owned Resources</u>				630.4
<u>Baseline Landfill</u>		Landfill Gas	—	<u>3.7</u>
<b>Total Available Capacity</b>				<b>634.1</b>
<b>Total Purchased Power Renewable Resources</b>				<b>106.2</b>

*JRK Station* – The John R. Kelly Station (the "JRK Station") is located in downtown Gainesville. The JRK Station consists of one combined cycle combustion turbine ("CC1") unit with a net summer generation capability of 108 MW. CC1's is fueled by natural gas. With current natural gas prices and unit efficiency, CC1 operates mostly as a baseload unit.

*Deerhaven* – The Deerhaven Generating Station ("Deerhaven" or "DGS") is located approximately six miles northwest of the City and encompasses approximately 3,474 acres, which provides room for future expansion as well as a substantial natural buffer. The DGS consists of two steam turbines and three combustion turbines with a cumulative net summer capability of 409 MW. Unit 1 ("DH 1") is a conventional

steam unit with a net summer capability of 75 MW. Its primary fuel is natural gas and its emergency backup fuel is #6 oil. DH 1 began commercial operation in 1972 and is expected to be retired in 2022. Unit 2 ("DH 2") is a coal-fired, conventional steam unit with a net summer capability of 228 MW. Two combustion turbines are rated at 17.5 MW each and the third combustion turbine at 71 MW. All three combustion turbines have natural gas as their primary fuel and #2 oil as an alternate fuel.

DH 2 was the first zero liquid discharge power plant built east of the Mississippi River. No industrial wastewater or contact storm water leaves the site. Brine salt by-product from process water treatment is transported off site to a Class III landfill due to capacity constraints. The Deerhaven site has a coal combustion products/coal combustion residuals ("CCP"/"CCR") landfill that provides disposal capacity for CCR, fly and bottom ash, as well as flue gas scrubber by-product from the air quality control system ("AQCS"). DH 2 has an AQCS consisting of an electrostatic precipitator and fabric filter for particulate control, a dry circulating scrubber for sulfur dioxide ("SO<sub>2</sub>"), acid gas, and mercury ("Hg") reduction, and a selective catalytic reduction ("SCR") system for reduction of the oxides of nitrogen ("NO<sub>x</sub>") to meet or exceed regulatory requirements.

Since 2009, the operational mode of DH 2 has shifted from a high capacity factor base load to deep load cycling operation. This is the result of factors which includes flat megawatt-hour sales. A cost of cycling engineering study has been performed to accurately determine the long term maintenance cost resulting from this operational mode. The costs are utilized in both long range generation planning and short term unit commitment. Additionally, operational and physical changes necessary to reduce the cost of this mode of operation have been identified and are in various stages of implementation. The findings of the cycling engineering study have been incorporated into the budget and reflected in the CIP.

To assure reliability, considerable investment continues to be made in both physical components and control systems. In addition, the System has invested in a full scale, high fidelity simulator for operator training and control logic quality control. During fiscal year 2017, the System spent approximately \$5.2 million on a rebuild and upgrade of the Circulating Dry Scrubber ("CDS") that was installed in 2009, due to structural integrity issues. This environmental control equipment was replaced with upgraded structural support and a corrosion/erosion resistance liner that is made of C-276 alloy. The replacement and upgrades were completed before the summer peak season and will better ensure the long-term reliability of the environmental control equipment. Through coordination with the City of Gainesville Risk Management on an insurance claim related to the failure of the Deerhaven Unit #2 CDS; GRU has recovered \$4.25 million for the cost of the CDS decommissioning and erection of the vessel to the original design specifications.

*Crystal River 3* – Crystal River 3 ("CR-3") is a retired nuclear powered electric generating unit which had a net summer capability of 838 MW, located on the Gulf of Mexico in Citrus County, Florida, approximately 55 miles southwest of Gainesville. Duke was the majority owner. In February of 2013, Duke announced that CR-3 would be permanently shut down and retired. The System owned a 1.4079% ownership share of CR-3 equal to approximately 12.7 MW (11.846 MW delivered to the System). In 2012, the minority owners, including the System, agreed to have the Florida Municipal Power Agency ("FMPA") represent their interests in negotiating a settlement with Duke for damages resulting from the premature retirement of CR-3. Duke maintained insurance for property damage and incremental costs of replacement power resulting from prolonged accidental outages from Nuclear Electric Insurance, LTD. ("NEIL"). The System has received its allocated insurance proceeds of \$1,308,211, of which \$660,951 was credited on invoices.



FMPA, on behalf of the minority owners, negotiated a settlement with Duke. The settlement was executed by all parties with an effective date of September 26, 2014. The settlement transferred all of the System's ownership interests in CR-3 and the requisite Decommissioning Funds to Duke. In October 2014, the System received reimbursement of \$219,706 in operation and maintenance expenses forgiven by the settlement. The ownership transfer was approved by the Nuclear Regulatory Commission (the "NRC") on May 20, 2015. Upon the NRC's approval of ownership transfer, the minority owners received certain cash settlements and Duke agreed to be responsible for all future costs and liabilities relating to CR-3 including decommissioning costs. On October 30, 2015, the transfer of ownership interests in CR-3 closed, and the System received a settlement of \$9.56 million as a minority owner of CR-3 and \$618,534 as a former purchaser of power from CR-3. Consequently, CR-3 is not shown on the table of generating facilities.

For further discussion regarding CR-3, see Note 5 to the audited financial statements of the System "Jointly Owned Electric Plant" referenced in APPENDIX B attached hereto.

**South Energy Center** – The South Energy Center was completed in 2 phases of construction and is a combined heat and power facility dedicated to serve a 1,000,000 square foot, 400-bed teaching hospital with Level I trauma center belonging to UF Health/Shands Teaching Hospital and Clinics ("UF Health") at the University of Florida. The South Energy Center provides for all of the hospital's energy needs for electricity, steam, and chilled water. The South Energy Center is also responsible for providing medical gas infrastructure.

The South Energy Center provides the hospital with a highly redundant electric microgrid that is capable of operating either grid-connected or grid-independent to meet 100% of the hospital's needs. The South Energy Center Phase 1 has two grid connections for normal power, and a 3.5 MW on-site combustion turbine to provide full standby power to the hospital and energy center, as well as a planned 2.25 MW fast-start diesel generator to provide code-compliant essential power for the hospital. The combustion turbine is installed in a combined-heat-and-power configuration and is typically run base-loaded to provide export power to the grid and steam to the hospital. All plant systems for electric, chilled water, and steam have high levels of equipment redundancy to minimize the potential of an outage. The South Energy Center Phase 2 has two grid connections for normal power, and both a 7.4 MW on-site reciprocating internal combustion engine to provide full standby power to two towers of the hospital and energy center, as well as a planned 3 MW fast-start diesel generator to provide code-compliant essential power for the hospital. The reciprocating internal combustion engine is installed in a combined-heat-and-power configuration and is typically run base-loaded to provide export power to the grid and steam to the hospital. During 2018, the South Energy Center provided 2.6% of the System's generation.

The South Energy Center is owned and operated by the System, and provides services under a 50-year "cost plus" contract with UF Health. The medical campus has been master planned for 3,000,000 square feet of facilities at build out, the timing of which is contingent upon future economic conditions.

**DHR Biomass Plant** –The fuel supply is primarily forest residuals left in the field after normal timber harvesting as well as materials from urban forestry and suitable sources of clean wood, and biomass such as pallets, and mill residues. The DHR Biomass Plant began commercial operation on December 17, 2013 ("COD"). The DHR Biomass Plant is equipped with Best Available Control Technology ("BACT") air emission controls including; dry sorbent injection, selective catalytic reduction of NO<sub>x</sub> and fabric filters for particulate control. The type of fuel to be employed makes it unnecessary to control SO<sub>2</sub> or mercury. The DHR Biomass Plant received its Title V Operating Air Emissions Permit effective January 1, 2015, which was transferred to GRU in November 2017, and must be renewed every five years.

Upon the City acquiring the DHR Biomass Plant in November, 2017, considerable effort has been spent in optimizing the plant. The plant currently has the ability to operate between a range of 35-102.5 MW, with no restrictions. As such the DHR Biomass Plant is now more economical to be used for dispatch than it was under the PPA.

*Baseline Landfill* – The System entered into a fifteen-year contract for the entire output (3.68 MW) of electricity generated from landfill gas derived from the Baseline Landfill in Marion County, Florida, which was placed in service in December 2008. The Baseline Landfill is actively expanding and additional capacity is projected for the future. Power from the Baseline Landfill is wheeled to the System over Duke's transmission system.

### Fuel Supply

The objectives of the System's fuel procurement and management strategy are: (1) diversification of fuel mix and fuel sources, (2) continuous improvement of delivered fuel cost through innovative contract procurement and the use of short-term suppliers, (3) optimization of the quality of fuel and market price to achieve environmental compliance in the most effective and competitive manner possible, (4) reduction in the impact of price volatility in fuel markets through physical and financial risk management of the fuel supply portfolio and (5) participation in joint procurement programs with other municipal systems to maximize the price benefits of volume purchasing. The flexibility afforded by these actions allows the System to take advantage of changes in relative fuel prices and strategically adjust its use of coal, natural gas, woody biomass or fuel oil to optimize its fuel costs. For fiscal year 2018, net energy for load ("NEL") was served as follows: coal 27.60%; biomass 26.80%; natural gas 43.10%; landfill gas 1.30%; solar 1.10%; oil 0.10%. The remainder of NEL was served by spot purchase power. The System, as both a buyer in the fuel markets and a producer of power, hedges risk and volatility by the use of futures and options. The System's hedging activities are primarily limited to natural gas futures and options. The System's exposure to financial market risk through hedging activity is limited by a written policy and procedure, oversight by a committee of senior division managers, financial control systems, and reporting systems to the General Manager for the System.

*Coal* – The System currently owns a fleet of 111 aluminum rapid-discharge rail cars that are in continuous operation between the Deerhaven Generating Station ("DGS") and the coal supply regions. Coal inventory at the DGS is maintained at approximately 40-50 day supply, based on projected burn, anticipated disruptions in coal supply or rail transportation, or short-term market pricing fluctuations. The System's coal procurement considers both short-term and long-term fuel supply agreements with reputable coal producers. This strategy allows the System to reduce supply risk, decrease price volatility, insulate customers from short-term price swings, and exert better control over the quality of coal delivered. The strategy also retains opportunities for cost savings through spot purchases, the ability to evaluate new coal sources through test burns, or to take advantage of a producer's excess coal production capacity. Typically, the System maintains 70-75% of its coal supply under one to three year term contracts and the remainder under short-term contracts of one year or less. The System currently has two active contracts for the supply of coal. The two contracts are with JRL Coal, Inc. and Deane Mining and are for a delivery of two unit trains each per month until contracts expire December 2018. The total volume on both contracts is 794,500 tons for the 16 month term. The System has a long-term transportation contract for coal with CSX Transportation that expires December 31, 2019. Staff is currently conducting research and gathering information in preparation for renegotiation of the agreement. A consultant that specializes in fuel transportation and logistics has been retained to explore additional transport options and finalize the rail renegotiation strategy. Effective October 2014, the City Commission instituted a policy prohibiting the

procurement of coal from mountain top removal (MTR) sources unless a 5% savings over non-MTR mined coal is achieved by doing so. This policy has not had a material impact on the System to date.

See also "Ratings Triggers and Other Factors That Could Affect the System's Liquidity, Results of Operations or Financial Condition - Coal Supply Agreements" herein.

**Natural Gas** – Natural gas supply for both the electric system and the natural gas distribution system is transported to the System by Florida Gas Transmission ("FGT"). A portion of this gas is transported under long-term contracts for daily firm pipeline transport capacity. The contracts are priced under transportation tariffs filed with the Federal Energy Regulatory Commission ("FERC"). The System's natural gas supplies are transported from Gulf Coast producing regions in Texas, Louisiana, Mississippi and Alabama. Natural gas volumes greater than the System's firm transportation contract entitlements are supplied either through the use of excess delivered capacity from other suppliers on FGT or through interruptible transportation capacity, as arranged by TEA which has combined purchasing power to ensure capacity. For fiscal year 2018, the System consumed 9,411,731 million British thermal units ("MMBtu") of natural gas in electric generation and 2,185,050 MMBtu for the gas distribution system. The average cost of gas delivered to the System was \$3.56/MMBtu. The System analyzes, investigates, and participates in opportunities to hedge its natural gas requirements as well as provide greater reliability of supply and transportation for customers. These opportunities include pipeline tariff discussions and negotiations, review of potential liquefied natural gas projects and supply offers, review of potential long-term purchases, natural gas supply baseload contracts, and the purchase and sale of financial NYMEX commodity contracts and options. TEA and consultant INTL FCStone are market participants that provide comprehensive energy trading, analysis, strategies and recommendations to the System's Risk Oversight Committee ("ROC"). TEA is responsible for the procurement of daily physical volumes and management of pipeline transportation entitlements, as well as the execution of financial hedging transactions on the System's behalf. ROC provides direction and oversight on hedging to TEA. See "Energy Sales – *The Energy Authority*" above.

**Oil** – At current and projected price levels, the System's oil capable units are not projected to operate on fuel oil except in emergency backup modes. For fiscal year 2018, fuel oil accounted for approximately 0.06% of net generation. This level of contribution is not projected to change in the near term. When it does become necessary to replenish inventory for any unit, the System seeks to control the costs by purchasing forward supply at fixed prices and timing market entry points to take advantage of favorable pricing trends.

**DHR Biomass Plant Fuel Supply** – The DHR Biomass Plant is fueled by local clean wood waste. This wood fuel includes forestry residues (such as slash and cull trees, pre-commercial thinnings, and whole-tree chips), urban wood residue (such as wood and brush from clearing activities, tree trimmings from right-of-way maintenance), wood processing residue (such as round-offs, end cuts, saw dust, shavings, reject lumber) and other wood waste (such as unusable wood pallets, storm/infested woody debris). It does not use any wood from construction or demolition waste. Rather than importing more fossil fuels, the DHR Biomass Plant's wood fuel is local and is harvested within a 75 mile radius of the plant in north central Florida. The DHR Biomass Plant requires approximately seven hundred and fifty thousand green tons of fuel annually. Before the DHR Biomass Plant began taking wood deliveries, much of this forestry waste wood was open burned, releasing smoke, ash, and soot into the air. Instead of being burned in the open or left on the forest floor to decompose, this material is being used to create renewable energy.

## Transmission System, Interconnections and Interchange Agreements

The System's transmission system infrastructure consists of approximately 117.2 circuit miles operated at 138 kV and 2.5 circuit miles operated at 230 kV. There are four interconnections with the Florida transmission grid thereby connecting the System to Duke to the west and south as well as FPL to the east. Specifically, there are three (3) interconnections with Duke: one at their Archer Substation at 230 kV and two at their Idylwild Substation at 138 kV. There is also one interconnection to FPL's Hampton Substation at 138kV. The Hague transmission switching station was constructed to serve as the interconnection point to the DHR Biomass Plant. The transmission system has ample interconnection capacity to import sufficient power from the State grid system to serve native load under normal circumstances.

The System's 138 kV transmission system encircles its service area and connects three transmission switching stations, six loop-fed distribution substations, and four radial-fed distribution substations. This configuration provides a high degree of reliability to serve the System's retail load, delivering wholesale power to Alachua and providing transmission service to a portion of Clay's service territory.

The System is a member of the Florida Reliability Coordinating Council (the "FRCC"), which is a not-for-profit company incorporated in the State of Florida. The purpose of the FRCC is to ensure and enhance the reliability and adequacy of bulk electricity supply in Florida. As a member of FRCC, the System participates in sharing reserves for reliability purposes with other generating utilities in Florida, resulting in a substantial reduction in the amount of reserves required for proper operation and reliability.

FRCC serves as a regional entity with delegated authority from the North American Electric Reliability Corporation ("NERC") for the purposes of proposing and enforcing reliability standards within the FRCC Region. The area of the State of Florida that is within the FRCC Region is peninsular Florida east of the Apalachicola River, which area is under the direction of the FRCC Reliability Coordinator.

## Electrical Distribution

All of the System's distribution substations are served from the 138 kV transmission system. The System is a 12.47 kV distribution system. If the transmission line supplying a radial-fed distribution substation should fault, the retail loads affected can be served by remote and field actuated switching to adjacent and unaffected distribution circuits. Additional substations have been planned near and within the northern and eastern quadrants of the System's service area to serve load growth in those areas and improve system reliability and resiliency.

The transmission and distribution facilities are fully modeled in a geographical information system ("GIS"). The GIS is integrated with the System's outage management system to enable the linkage of customer calls to specific devices. This integration promotes enhanced and expedited service restoration. Integrated software systems are also used extensively to assign loads to specific circuits, planning distribution and substation system improvements, and supporting restoration efforts resulting from extreme weather. In addition, greater than 60% of the distribution system's circuit miles are underground, which is among the highest percentages in Florida.

## Capital Improvement Program

The System's current five-year electric capital improvement program requires approximately \$180 million in capital expenditures between fiscal years ended September 30, 2018 through and including 2023 which includes the DHR Biomass Plant. A breakdown of the categories included in the five-year capital

improvement program is outlined below and reflects the approved program from the fiscal year 2018 budget process. See "--Funding the Capital Improvement Program - Additional Financing Requirements" below for more information regarding funding.

### Electric Capital Improvement Program

	Fiscal Years ended September 30,					Total
	2019	2020	2021	2022	2023	
Generation and Control	\$35,079,531	\$22,148,496	\$13,116,496	\$7,041,496	\$4,471,496	\$81,857,515
Transmission and Distribution	11,465,391	37,292,872	16,536,919	6,448,227	7,987,410	79,730,819
Miscellaneous and Contingency	4,817,612	4,626,709	4,044,262	3,528,407	1,968,896	18,985,886
<b>Total</b>	<b>\$51,362,534</b>	<b>\$64,068,077</b>	<b>\$33,697,677</b>	<b>\$17,018,130</b>	<b>\$14,427,802</b>	<b>\$180,574,220</b>

#### Loads and Resources

A summary of the System's generating resources and firm interchange sales compared to historical and projected capacity requirements is provided below:

Fiscal Year	Net Summer System Capability (MW) <sup>(1)</sup>	Firm Interchange Sales (MW)	Peak Load (MW) <sup>(2)</sup>	Actual / Projected Planning Reserve Margin	
				MW	Percent
<b>Historical</b>					
2014	639	0	409	230	56%
2015	639	0	421	218	52
2016	631	0	428	203	47
2017	627	3	418	211	51
2018	634	0	408	226	55
<b>Projected</b>					
2019	634	0	435	199	46
2020	634	0	438	196	45
2021	634	0	442	192	43
2022	634	0	445	189	42
2023	559	0	448	111	25

<sup>(1)</sup> Based upon summer ratings. Imported firm capacity has been adjusted for losses in the table above. The DHR Biomass Plant is 102.5 MW and is included in projected values. Does not include Solar FIT.

<sup>(2)</sup> Source: GRU 2018 Ten Year Site Plan, Schedule 7.1.

#### Mutual Aid Agreement for Extended Generation Outages

The System has entered into a mutual aid agreement for extended generation outages with six other consumer-owned generating utilities in north central Florida and Georgia. Participating with the

System in this agreement are FMPA, JEA, Lakeland Electric, Orlando Utilities Commission, the City of Tallahassee, and MEAG Power. Participants have committed to provide replacement power in the event of a long-term (two to twelve month) outage of one of the baseload generating units designated under the agreement. Each utility will provide a pro-rata share of the replacement power and will be reimbursed at an indexed price of coal assuming a heat rate of 11,000 BTU/kWh and an indexed price for gas assuming a heat rate of 9,250 BTU/kWh. The System has designated 100 MW of the capacity of DH 2 and 100 MW of the capacity at JRK Station to be covered under the agreement. The current agreement was renewed for an additional 5-year term beginning October 1, 2017. To date, the System has provided aid under this agreement, but has never requested aid pursuant to this agreement.

### Future Power Supply

#### General

While the System's existing generating units can maintain a 15% reserve margin through at least 2022, if all generating units are available, the reserve margin can fall from 40+% to a generation deficit with the loss of the System's largest unit, DH 2. As such, power supply planning must address this first contingency event. The reliability of the System's generating sources and the availability of purchased power have been such that the System has never had to declare a generation deficiency. The next scheduled retirement of a generating facility is DH 1 in 2022. Management's strategy to maintain competitive power costs is to maintain the System's status as a self-generating electric utility with a diverse fuel supply that is hedged with a renewable PPA portfolio and meets all environmental standards and expectations of the local community. The ability to be self-generating has proven itself to be a powerful hedge against market volatility while maximizing reliability for native load. Important aspects of this strategy are the management of potentially stranded costs, maintenance of adequate transmission capacity, use of financial as well as physical techniques to hedge fuel costs, and long-term management of pipeline and rail transportation contracts and capacity. GRU has found it to be in its best economic interests to manage its power needs through the generation of power with its existing facilities and to acquire/utilize purchased energy supply, if there is a cost benefit.

#### The Planning Process

The primary factors currently affecting the utility industry include environmental regulations, restructuring of the wholesale energy markets, the formation of independent bulk power transmission systems, the formation of an Electric Reliability Organization ("ERO") under FERC jurisdiction, and the increasing strategic and price differences among various types of fuels. No state or federal legislation is pending or proposed at this time for retail competition in Florida. The purpose of the planning process is to develop a plan to best meet the System's obligation to the reliability and security of the bulk electric system ("BES") of the State of Florida and best serve the needs of the System's customers, the most significant of which being competitive pricing of services. The System's current coal transportation contract expires December 31, 2019. Although negotiation strategies and additional options are being explored, the as-delivered cost of coal is anticipated to significantly increase.

Power 2020 originally started in 2012 to determine the long-term life cycle management of generating units, and was originally focused only on power generation options to replace upcoming retiring unit, as well as longer term generation needs. In 2016, the scope expanded to look at both generation and transmission options for GRU. As a result, in early 2016, TEA was chosen to create an Integrated Resource Plan ("IRP") to help model a better answer to some of the unknowns going forward.

Using modeling algorithms, the IRP will take a look at the aspects of the system requirements and provide recommendations for the best path forward. That path may include, amongst other strategies, additional generation, import capability, and demand side management, to accomplish the needs of the System. Delivery of the final report was received in September 2017. Since acquiring the DHR Biomass Plant in late 2017, GRU is working with TEA to update the IRP with current data, including looking at adding a portion of solar farm. The IRP updates are actively in progress at this time. The IRP may recommend what mix of generation and transmission may be needed long term, as well as what generating units will provide the best economic dispatch, which may impact coal contracts.

In the fall of 2016, GRU applied for a Point-to-Point Transmission Service Request ("TSR") with Duke Energy Florida ("DEF") and Florida Power & Light ("FPL") with the intent of obtaining worst-case costs and facility upgrades necessary to provide GRU with 340 MW of firm power service from either provider. The amount of 340 MW was chosen as the "upper envelope" of import power needs in the event GRU retires all native generation with the exception of the DHR Biomass Plant. Based on the study results, DEF concluded that extensive projects work must be completed in the 10 year planning horizon and provided a non-binding estimate of \$400 million to mitigate impacts on the DEF system. FPL, based on its own TSR results, provided a non-binding estimate of \$75.5 million for its own required system upgrades and identified multiple third party impacts, confirming DEF's findings. Should GRU pursue large firm power purchases, third party impacts (such as the need to acquire right of way for transmission lines) shall be reassessed in a coordinated study with the FRCC TWG.

#### Solar FIT

The System became the first utility in the nation to adopt a European-style solar FIT in March 2009. The System purchases 100% of the electricity produced by a photovoltaic ("PV") solar system, which is delivered directly to the System's distribution system. What distinguishes a European-style FIT from any other FIT are the following three factors: (a) the price paid per kWh is designed to allow the owner/operator to earn a profit (the System applied a 5% internal rate of return after taxes to a reference system design); (b) the tariff is fixed over a sufficient period of time by a contract that is designed to promote investment (the System provides a twenty-year fixed price power purchase agreement); and (c) there are distinctions between different types of projects in terms of the price paid (in the case of the System, there are different rates for building/pavement mount and green field ground mount systems). FIT can be applied to any form of renewable energy, but the System chose to focus on solar. The System acquires all the environmental attributes of the solar energy purchased under the FIT, such as renewable energy credits and carbon offsets. The System stopped accepting new installations after 2013; however, approximately 18.6 MW of solar PV capacity was installed and continues to supply energy to the System.

#### Solar Net Metering

Net metering systems generally consist of solar panels, or other renewable energy generators, connected to a public utility power grid. The surplus power produced is transferred to the grid, allowing customers to offset the cost of power drawn from the utility. The net meter system includes both residential and commercial customers. To date, approximately 6.9 MW of solar PV capacity have been installed.

### **The Water System**

The water system currently includes 1,170 miles of water transmission and distribution lines throughout the Gainesville urban area, 16 water supply wells located in a protected well field, and one